Scholars Journal of Medical Case Reports
Abbreviated Key Title: Sch J Med Case Rep
ISSN 2347-9507 (Print) | ISSN 2347-6559 (Online)
Journal homepage: https://saspublishers.com

OPEN ACCESS

Dermatology

Dermoscopic Changes of a Cutaneous Leishmaniasis Treated with Intralesional Pentavalent Antimonials: A Case Report

Ennaciri Mohamed Amine[1*], Baba Rime[1], Hanafi Tarik[1], El Azhari Jawad[1], Zemmez Youssef[1], El Amraoui Mohamed[1], Frikh Rachid[1], Hjira Naoufal[1]

[1]Dermatology Department, Mohammed V Military Teaching Hospital, Mohammed V University, Rabat, Morocco

DOI: https://doi.org/10.36347/sjmcr.2024.v12i12.010 | **Received:** 18.10.2024 | **Accepted:** 28.11.2024 | **Published:** 07.12.2024

***Corresponding author:** Ennaciri Mohamed Amine
Dermatology Department, Mohammed V Military Teaching Hospital, Mohammed V University, Rabat, Morocco

Abstract **Case Report**

Leishmaniasis is a group of parasitic diseases caused by flagellated protozoa of the genus Leishmania with tropism for cells of the reticuloendothelial system, transmitted to many mammals by the bite of the sandfly. They can be visceral, cutaneous or mucocutaneous and represent a public health problem in countries where they are endemic. The diagnosis of cutaneous leishmaniasis is based on epidemiologic, clinical and dermoscopic evidence, with diagnostic certainty established by parasitologic examination, histology or PCR. Dermoscopic findings include erythema, starburst appearance, hyperkeratosis, central ulceration, yellow tears, salmon-colored ovoid structures, glomerular, linear, irregular, hairpin or arborizing vessels, and hypochromic perilesional halo. Pentavalent antimonials are used therapeutically in leishmaniasis, inhibiting ATP synthesis, fatty acids and glycolic oxidation, with immunostimulating and immunoregulatory properties. Our case is a cutaneous leishmaniasis treated with pentavalent antimonials, in which we monitored the dermoscopic appearance of the lesions as the sessions progressed. The salmon-colored ovoid structures were the first to disappear, followed by hyperkeratosis and erosion, then the initially polymorphic vascularization became monomorphic. Yellow tears and erythema were the last structures to disappear. Our article shows that the disappearance of certain structures and the appearance of others can be a good indicator of how close to healing the lesion is.

Keywords: Cutaneous Leishmaniasis, Pentavalent Antimonials, Dermoscopic Changes.

INTRODUCTION

Cutaneous leishmaniasis is a parasitic disease that is endemo-epidemic in certain regions, and can result in unsightly scars, hence the need for rapid diagnosis and appropriate treatment. Dermoscopy is a diagnostic tool that could also prove useful for monitoring lesions and predicting healing. We report here on a case of dermoscopic follow-up of cutaneous leishmaniasis of the face.

CASE REPORT

An 08-year-old girl was referred to our consultation for a papulonodular lesion on the face that had occurred following a stay in Beni-Mellal 02 months previously. The lesion was a painless erythematous papule covered with fine scales located in the malar region (figure 1).

Figure 1 : Painless erythematous papule covered with fine scales located in the malar region

A parasitological examination of a smear at the edge of the lesion revealed the presence of amastigote Leishmania sp bodies.

In view of the prominent nature of this single lesion occurring without immunosuppression in a non-peri-orificial and non-peri-articular region, cryotherapy was started without improvement, followed by treatment with intralesional meglumine antimoniate at a rate of 2ml per session at the 4 cardinal points until the surface whitened; at a rate of approximately 2 sessions per week.

Initial polarized dermoscopy revealed generalized erythema with hyperkeratosis, yellow tears, salmon-colored ovoid structures and polymorphous vascularization made up of irregular, hairpin and glomerular linear vessels (figure 2).

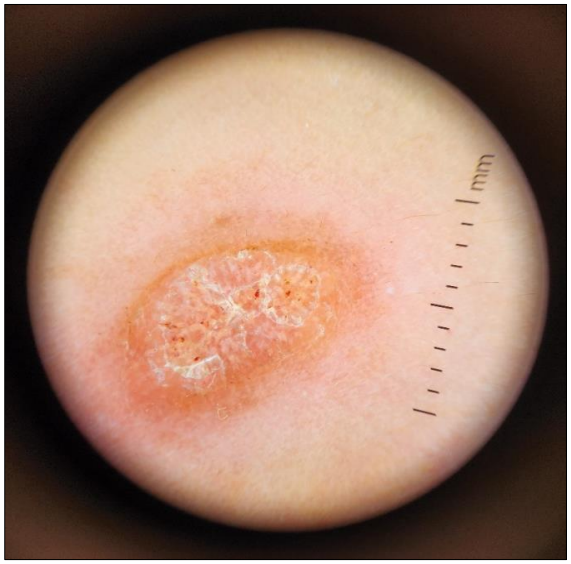

Figure 2 : Initial dermoscopy revealing a generalized erythema with hyperkeratosis, yellow tears, salmon-colored ovoid structures and a polymorphous vascularization

Immediately after application of meglumine antimoniate, the dermoscopic appearance remained the same, although the erythema darkened slightly (figure 3).

Figure 3 : Dermoscopic image after the application of intralesional pentavalent antimonate showing a slightly darkened erythema

At his second session, the generalized erythema had disappeared, giving way to central hyperkeratosis with erosions, the yellow tears persisted, the salmon-colored ovoid structures had disappeared, the vascularization was polymorphous, made up of irregular linear, glomerular and dotted vessels (figure 4).

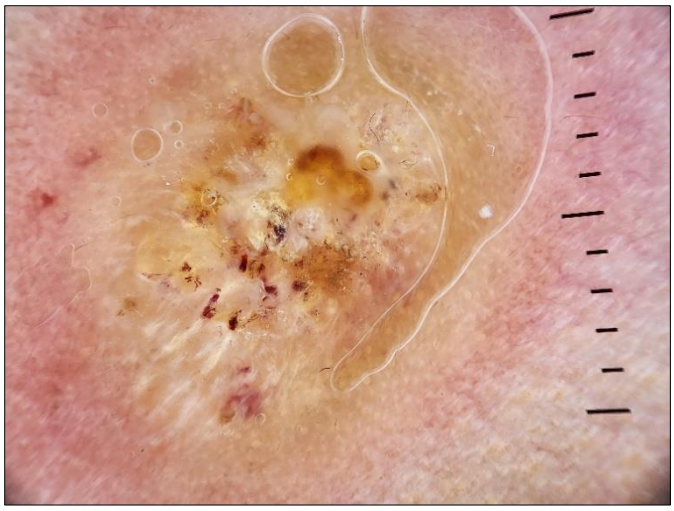

Figure 4 : Second session : Central hyperkeratosis with erosions, yellow tears and polymorphous vessels

At his third session, the erythema reappeared and the vascularization remained polymorphous with darkening of the erythema after the application of meglumine antimoniate (figure 5 and 6).

Figure 5 : Third Session : erythema, hyperkeratosis, central erosion, yellow tears, polymorphous vessels

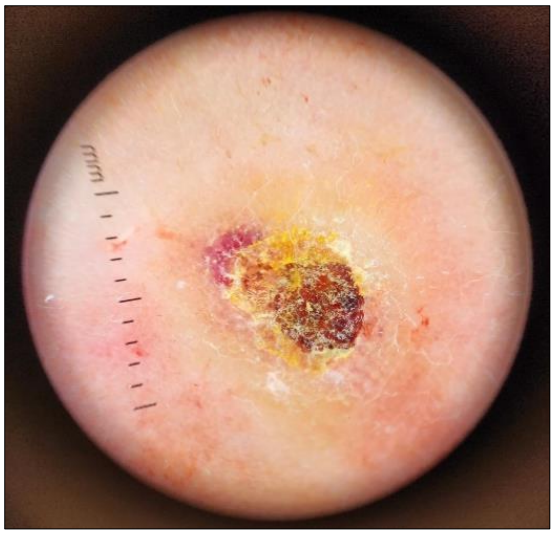

Figure 6 Third session : Dermoscopy after treatment showing a darkening of the erythema

At the fourth session, there was a generalized erythema with yellow tears and polymorphous vascularization made up of irregular linear vessels, glomerular vessels, comma vessels and dotted vessels (figure 7).

Figure 7 : Fourth session: generalized erythema, yellow tears, polymorphic vascularisation

After application of meglumine antimoniate, the erythema lightened, with the appearance of a white perilesional halo (figure 8).

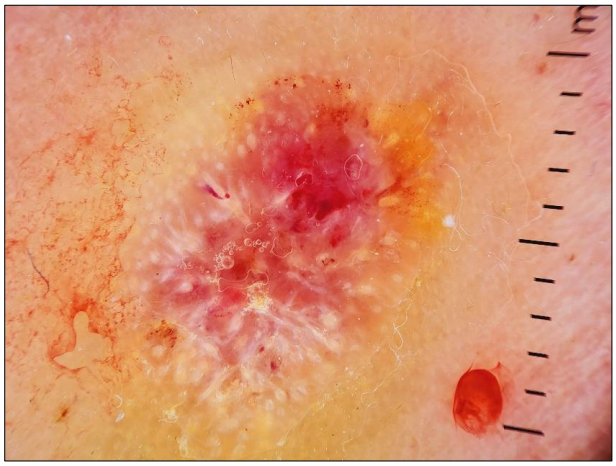

Figure 8 : Fourth session after treatment: lightning of the erythema and appearance of a white perilesional halo

At the fifth session, there was generalized erythema, yellow tears, a starburst appearance and a white perilesional halo with polymorphous vascularization (figure 9).

Figure 9 : Fifth session: generalized erythema, yellow tears, starburst apperance, white perilesional halo and polymorphous vascularization

At the sixth session, there was generalized erythema, central erosion, yellow tears with starburst appearance, perilesional white halo and polymorphous vascularization (figure 10).

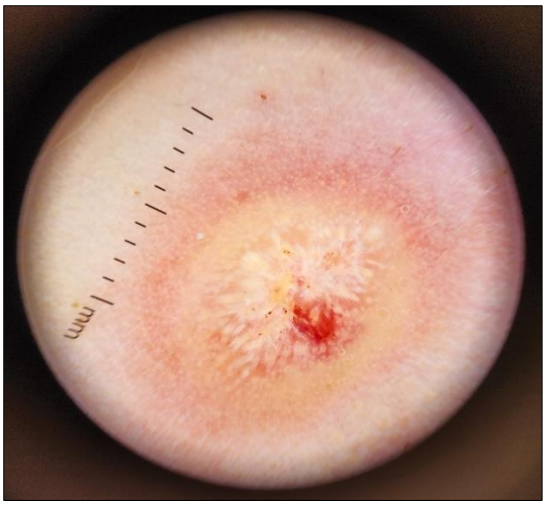

Figure 10 : Sixth session: generalized erythema, central erosion, yellow tears, starburst appearance, perilesional white halo and polymorphous vascularization

At the seventh session, the appearance remained unchanged (figure 11).

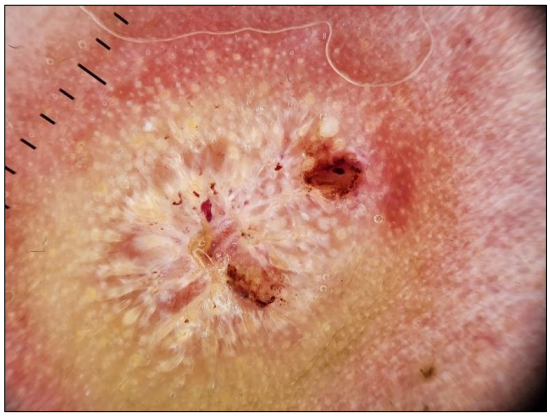

Figure 11 : Seventh session: generalized erythema, central erosion, yellow tears, starburst appearance, perilesional white halo and polymorphous vascularization

At the eighth session, only the generalized erythema, yellow tears and irregular linear vessels remained (figure 12).

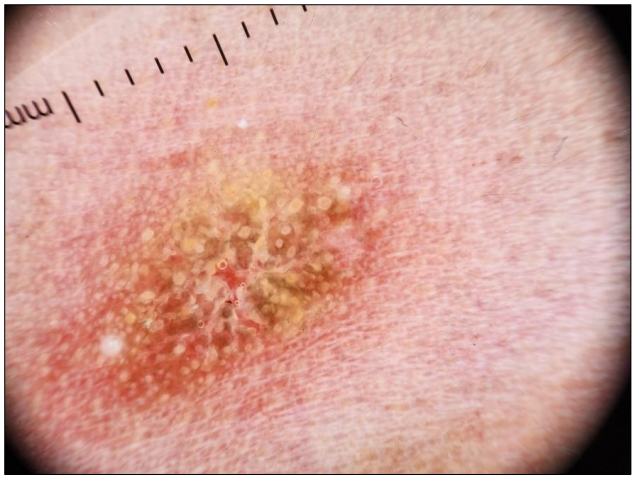

Figure 12 : Eighth session: generalized erythema, yellow tears and irregular linear vessels

At the ninth session, the appearance remained identical (figure 13).

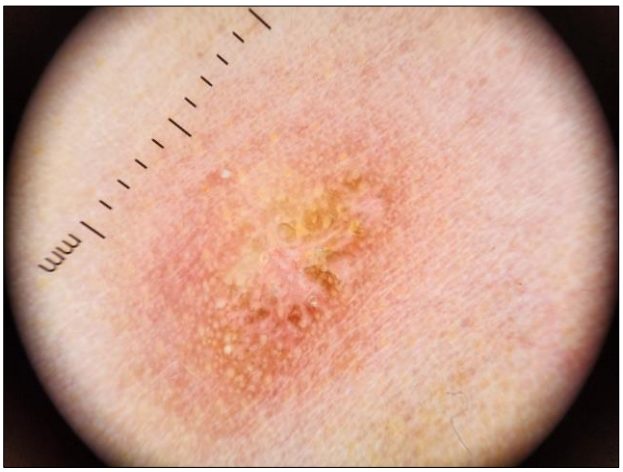

Figure 13 : Ninth session: generalized erythema, yellow tears and irregular linear vessels

At the tenth session, only the yellow tears and irregular linear vessels remained (figure 14), with the yellow tears disappearing at the last session (figure 15).

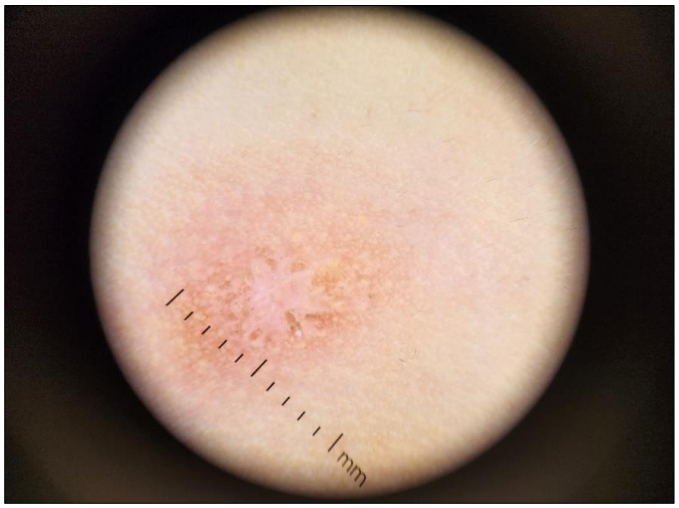

Figure 14 : Tenth session: yellow tears and irregular linear vessels

Figure 15 : Last session: linear irregular vessels

In short, meglumine antimoniate infiltration is immediately associated with a darkening or lightening of the erythema and may be associated with the appearance of a peri-lesional white halo; it may also lead to erosion or ulceration of the lesion at a distance;

As the various sessions progressed, the salmon-colored ovoid structures were the first to disappear, followed by hyperkeratosis and erosion, leaving at one point only generalized erythema, yellow tears and polymorphous vascularization; this was followed by the brief appearance, during 3 sessions, of a starburst appearance.

Subsequently, the vessels became monomorphous, linear and irregular, the yellow tears disappeared then the erythema.

DISCUSSION

Leishmaniasis is an anthropozoonosis caused by the flagellate protozoan Leishmania that affects the reticuloendothelial system. It is endemo-epidemic in certain regions of the world, notably Morocco. Beni-Mellal is endemic for leishmaniasis caused by Leishmania tropica.

Treatment of leishmaniasis depends on the patients' condition, the number and location of lesions. If there are fewer than 4 prominent lesions, non-periorificial and non-periarticular, with no context of immunosuppression, treatment is with intralesional pentavalent antimonials with cryotherapy or thermotherapy if available (Masson, n. d.)

Local treatment with pentavalent antimonials is performed by intralesional injection of 1 to 3ml, twice a week for 4 weeks or more until complete healing.

Dermoscopic findings suggestive of leishmaniasis include erythema, hyperkeratosis, erosion, ulceration, yellow tears, salmon-colored ovoid structures, dotted, irregular linear or hairpin vessels, arborizing, glomerular or corkscrew vessels, hypochromic peri-lesional halo and starburst appearance (Llambrich *et al*., 2009; Yücel *et al*., 2013).

To the best of our knowledge, our article is the first to describe the dermoscopic changes of a cutaneous leishmaniasis lesion during treatment with intralesional meglumine antimoniate.

The dermoscopic appearance varies over time: while salmon-colored ovoid structures (granulomas) rapidly disappear, other granulomatous structures (yellow tears) persist until healing. This is explained by the fact that the presence of well-formed granulomas is inversely proportional to the parasite load (Riyal *et al.*, 2023). Polymorphic vascularization is gradually replaced by monomorphic vessels. This may indicate that the disappearance of salmon-colored ovoid structures, yellow tears and polymorphous vessels are signs of a favorable course.

The crust-covered erosion occurred after the first application of meglumine antimony, which may be related to a cutaneous toxic effect of the latter, or to a paradoxical activation of the parasite that led to these lesions. As for the appearance of a starburst appearance, which is the dermoscopic translation of hyperkeratosis with parakeratosis (Memon *et al*., 2023), an explanation has yet to be determined.

CONCLUSION

Analysis of our case reveals dermoscopic features associated with the course of cutaneous leishmaniasis, but further studies with a large sample size are needed to determine the criteria for a favorable and unfavorable course.

Acknowledgments: None

REFERENCES

- Llambrich, A., Zaballos, P., Terrasa, F., Torne, I., Puig, S., & Malvehy, J. (2009). Dermoscopy of cutaneous leishmaniasis. *British Journal of Dermatology*, *160*(4), Article 4. https://doi.org/10.1111/j.1365-2133.2008.08986.x
- Masson, E. (n. d.). *Leishmanioses cutanées*. EM-Consulte. Cited 2024 Aug 14. Available from https://www.em-consulte.com/article/1053368/leishmanioses-cutanees
- Memon, S., Ahmed, N., Shah, S. A., Bari, A. ul, Rahim, M., Farooq, O., Memon, M. N., Memon, S., Ahmed, N., Shah, S. A., Bari, A. ul, Rahim, M., Farooq, O., & Sr, M. N. M. (2023). Comparing Dermatoscopic Features With Slit Skin Smear and Histopathology in Diagnosis of Cutaneous Leishmaniasis. *Cureus*, *15*. https://doi.org/10.7759/cureus.35336
- Riyal, H., Samaranayake, N., Amarathunga, P., Munidasa, D., & Karunaweera, N. D. (2023). Histological findings associated with treatment response in cutaneous leishmaniasis : A clinicopathological correlation study. *International Journal of Dermatology*, *62*(10), 1237-1247. https://doi.org/10.1111/ijd.16826
- Yücel, A., Günaşti, S., Denli, Y., & Uzun, S. (2013). Cutaneous leishmaniasis : New dermoscopic findings. *International Journal of Dermatology*, *52*(7), 831-837. https://doi.org/10.1111/j.1365-4632.2012.05815.x